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SYNOPSES OF NORTH AMERICAN INVERTEBRATES.

XX. Families and Genera of Araneida.

NATHAN BANKS.

The body of a spider is very distinctly divided into two parts : the anterior, or cephalothorax, or carapace, and the posterior, or abdomen. The cephalothorax is supposed to be the equivalent of the head and thorax of insects. Near the middle of the cephalothorax is a dorsal or median groove; from this groove radiate furrows, called radial furrows. The region of the cephalothorax between the anterior pair of furrows is called the pars cephalica, or head; the part behind is known as pars thoracica. The eyes are situated upon the front part of the pars cephalica; the region they occupy is known as the eye-region, eye-area, or ocular area. The eyes are usually eight in number, sometimes six, more rarely two or none. They are arranged in transverse rows, often two, sometimes three or four. References to the eyes are in the form of abbreviations, S. E., meaning side eyes; A. E., anterior eyes; P. E., posterior eyes; M. E., middle eyes; P. M. E., posterior middle eyes; A. S. E.,

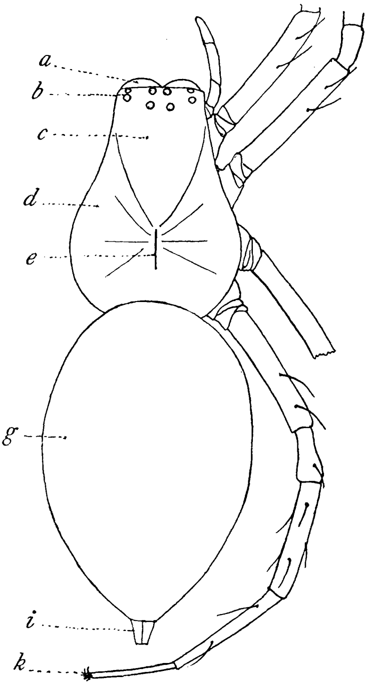

FIG. 1.—*a*, mandible; *b*, eyes; *c*, pars cephalica; *d*, cephalothorax; *e*, dorsal groove; *g*, abdomen; *i*, spinnerets; *k*, claws.

anterior side eyes, etc. Sometimes the most posterior eyes are called the dorsal eyes. An eye-row is either straight or curved. When the S. E. of a row are farther back than the M. E. of that row, the row is said to be recurved; when the S. E. are more forward, the row is procurved. Dark-colored eyes are considered to be diurnal in function, and pale eyes nocturnal. Many spiders have both kinds and the difference in appearance of the two is often very striking. The arrangement of the eyes is of the greatest importance in systematic araneology. The space between the anterior eye-row and the front or clypeal margin of the cephalothorax is called the clypeus, or fillet. Attached just below the clypeal margin are the mandibles, jaws, falces, or cheliceræ, as they are variously termed. Each is of two parts: the basal joint, or larger part, and the fang, or apical part. The fang fits down into a groove of the basal joint, which is often margined with a few small teeth. The poison glands open near the tip of the fang. The mandibles are usually vertical, sometimes uplifted, or porrect. Sometimes they are divergent, and in some cases the basal part is swollen above in front, and the mandible is then said to be geniculate. At the outer base of each basal joint there is, in some families, a small area separated from the rest of the surface; this is styled the boss, or lateral condyle.

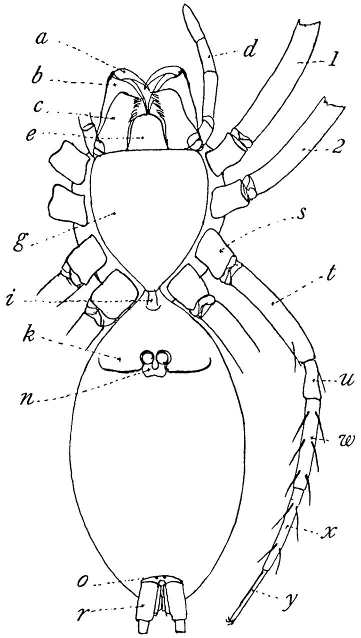

FIG. 2.—*a*, fang; *b*, mandible; *c*, maxilla; *d*, palpus; *e*, lip; *g*, sternum; *i*, pedicel; *k*, epigastric plate; *n*, epigynum; *o*, rima ventralis; *r*, spinnerets; *s*, coxa; *t*, femur; *u*, patella; *w*, tibia; *x*, metatarsus; *y*, tarsus; *1*, leg I; *2*, leg II.

The mouth-parts seen from below are a median piece, the lip or labium, and a piece on each side, the maxillæ, or endites. In some cases the maxillæ show an oblique furrow or impression. Each maxilla bears a jointed appendage, the palpus. In the female, the palpus is always simple, but in the male, when mature, the last joint is enlarged, concave within, and furnished with a number of more or less corneous and curved pieces, which serve as accessory sexual organs. The shape of these male palpi is of great value in the study of species. The sternum is the ventral plate of the cephalothorax; it is surrounded by the eight legs. In some species there are scars or impressions on the sternum. The legs are numbered from before backward as follows: I, II, III, IV. They are seven-jointed, each joint from the basal outward known as follows: coxa, trochanter, femur, patella, tibia, metatarsus or protarsus, and tarsus; in a few forms there is a small eighth joint, the onychium. At the tip of the tarsus, or onychium if present, are two claws, equal in size; below and between them, in some families is a third claw. Sometimes in place of the third claw there is a dense brush or fascicle of hair. The claws are often toothed or pectinate. In a few groups there are specialized branched hairs at the tip of the tarsus which may act as accessory claws. Sometimes there is a brush of hairs along the lower side of the tarsus or metatarsus; this is called a scopula. Sometimes there is a row of serrate bristles under tarsus IV; this is known as a comb.

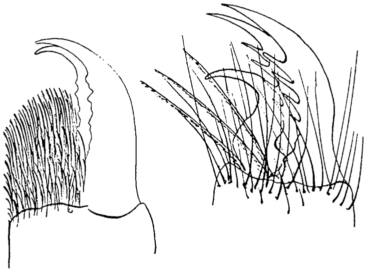
FIG. 3.—Tarsi with two claws and brush, and with three claws.

The abdomen is joined to the cephalothorax by a slender pedicel. At or near the tip of the abdomen on the under or ventral side are the spinning organs, or spinnerets. They are of three pairs, the middle pair smaller and concealed by the other two. Sometimes one pair is very plainly of two joints. At the base of the lower pair there is sometimes a transverse surface provided with (Fig. 4) spinning tubes similar to those of the spinnerets; this is the cribellum. Comple-

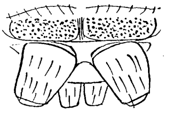
FIG. 4.— Cribellum.

mentary to this in function is a row of stiff hairs or bristles on each posterior metatarsus, known as the calamistrum (Fig. 5). The spider possessing these accessory spinning organs can produce a peculiar curled silk by using the calamistrum to comb out the threads from the cribellum. In some cases there is a conical piece between the lower pair of the spinnerets, termed the colulus. In the tarantulas and allied spiders there is a small post-abdomen above the spinnerets. Near the base of the spinnerets is a pair of stigmata or tracheal spiracles; these are sometimes placed more anteriorly, and even as near the base as the tip of the abdomen. When so situated a transverse fold or furrow is formed, known as the ventral furrow, or rima ventralis. Near the base of the abdominal venter is a transverse slit on each side. These are the lung-slits or epigastric furrows, which open into the breathing organs called lung-books. In some spiders there are two pairs of these slits, or there may be a tracheal spiracle behind the first pair. The hardened cuticle over the lung-books forms the epigastric plates. Between the plates on the median line is the opening of the reproductive organs. The genital aperture of the female is termed the epigynum or vulva, and that of the male, small and inconspicuous, is the epiandrium. The epigynum is often of a very complicated nature, and is of much value in the study of species. In some cases there is a pointed piece projecting below the abdomen known as the finger of the epigynum. The furrow behind the epigynum is called the rima genitalis. In some forms there are corneous plates, shields, or scutæ on the abdomen, either above or below. Small circular spots are sometimes called sigillæ.

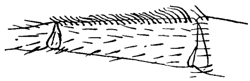
FIG. 5.— Calamistrum.

The legs and body are clothed with hairs, bristles, scales, or articulated spines. The arrangement of the latter upon the legs is often of great systematic value. If there are two rows of these under tibia I, each row of three spines, then tibia I is said to have spines 3–3. Sometimes these hairs or bristles form tufts, crests, or fringes. On the dorsum of the abdomen there is sometimes a leaf-like mark known as the folium. In some cases there are short, oblique marks in pairs on the dorsum;

these are called chevrons. The legs may have longitudinal marks — stripes ; or transverse marks — bands.

Spiders at birth are often very different from their later stages, so that it is impracticable to identify them by tables prepared for adults. However, many spiders when one or two months from maturity are sufficiently similar to their parents to be placed in the proper genus. None but specialists should attempt the specific identification of immature spiders. At maturity the female has her epigynum exposed, and the male has the complicated structures of the palpi uncovered. Spiders without these developments should not be studied by the beginner. There are a few forms of uncertain generic position which have not been included in the tables. They are rare, doubtless more so than various new generic forms that have not yet been collected, though occurring in our country. The spider fauna of many portions of the South and West has been only slightly explored, while a closer examination of our southern borderland will reveal various genera now known to occur in Central America only. Nevertheless the more common spiders in any portion of our country will be found in the following tables

MYGALOMORPHA.

Two pairs of lung-slits on venter of abdomen ; fangs of mandibles moving vertically, parallel to each other.

1. Legs very long and slender, femur I longer than body Hypochilidæ.
Legs short and heavy, femur I shorter than body . Theraphosidæ.

ARACHNOMORPHA.

But one pair of lung-slits on venter of abdomen ; fangs of mandibles moving somewhat horizontally, toward each other.

1. Without eyes ; small pale cave spider (Antrobia) . . Linyphiidæ.
With six or eight eyes . . . . 2.
2. With eight eyes . . . . 3.
With but six eyes . . . . 31.
3. All eyes close together upon a small tubercle or eminence ; large species, yellowish brown or brown in color . . . . . Filistatidæ.
All eyes not situated upon a small median tubercle . . . . 4.
4. Apex of abdomen surrounded by a circle of bent hairs ; small species

with flat cephalothorax, maxillæ curved around lip, and the posterior, middle eyes elongate and curved; eyes not in two transverse rows . . . Urocteidæ.

No circle of bent hairs around tip of abdomen . . . . . 5.

5. With a cribellum and calamistrum in female . . . . . 29.

Without cribellum and calamistrum . . . . 6.

6. Eyes always in three or four transverse rows; eyes of next to last row extremely small, the middle eyes of first row (or the first row in Lyssomanes) are very much larger than other eyes; clypeus always vertical, never sloping; cephalothorax never very broad, legs rather short; jumping spiders . . . . Attidæ.

Eyes in two or three rows; when in three rows, then the middle of first row are not greatly larger than any others, and those of second row not greatly smaller than others . . . . 7.

7. Each tarsus with three claws: spinning webs; or else eyes are often in three rows . . . . 14.

Each tarsus with but two claws; never spinning webs; eyes rarely in three rows; S. E. rarely contiguous; never with but two spinnerets 8.

8. Posterior eye-row so much procurved as to represent two rows, the P. M. E. oval; maxillæ long and tapering; fang of mandibles very long; trochanters longer than usual, anterior coxæ much longer than others . . . Prodidomidæ.

Without such combination of characters . . . . . . 9.

9. P. M. E. large, closer to the small A. S. E. than the latter are to the A. M. E., which are also small; tarsi with scopula; cephalothorax not broad and flat, legs rather laterigrade . . . . . . Ctenidæ.

P. M. E. not as close to A. S. E. as latter are to A. M. E., or if so, then eyes nearly equal in size . . . . 10.

10. P. M. E. black; legs I and II laterigrade, that is, articulated so that the anterior surface is directed upward. Second pair of legs nearly always as long as the fourth, or longer, and about as large and long as leg I; spinnerets not prominent; cephalothorax usually broad and abdomen often depressed . . . . 11.

P. M. E. pale, only A. M. E. dark; legs I and II not laterigrade; leg II usually noticeably shorter or smaller than either leg IV or leg I; cephalothorax longer . . . . 13.

11. A. M. E. some distance from clypeal margin, tarsi often not scopulate; spiders of medium size . . . . Thomisidæ.

A. M. E. close to clypeal margin, cephalothorax flatter, tarsi heavily scopulate, mostly large spiders . . . . 12.

12. Tarsal claws pectinate, maxillæ not inclined over lip; very large spiders . . . Sparassidæ.

Tarsal claws smooth, maxillæ inclined over lip; spiders of moderate size . . . Zodariidæ.

13. Lower spinnerets distinctly separated, rather long and prominent;

maxillæ with an obliquely transverse furrow or groove, outer side often concave; abdomen often depressed . . . . . . Drassidæ.

Lower spinnerets contiguous; maxillæ usually without furrow, outer. side convex . . . . Clubionidæ.

14. With but two spinnerets, which are very prominent, but not two-jointed, eyes in two rows, legs short and heavy; maxillæ inclined over lip Zodariidæ.

With six spinnerets . . . . 15.

15. Three eyes on each side in a group, the P. M. E. touching the P. S. E.; cephalothorax rounded and flat, the pars cephalica very small; legs long and without spines, maxillæ surrounding the lip . . Pholcidæ.

P. M. E. never touch P. S. E.; only two eyes in side group, pars cephalica occupying entire front of cephalothorax . . . . . 16.

16. Eyes in two rows, more or less curved; no scopula; P. S. E. never much larger than eyes of front row; when P. M. E. are as far apart as A. S. E. (which is rare) then the legs are not spined . . . . 17.

Eyes usually in three (or four) rows, when in two rows, then the P. S. E. are much larger than the eyes of front row, or the tarsi are scopulate, or the P. M. E. are farther apart than the A. S. E. (Hamataliva), and the legs spined . . . . 24.

17. Legs I and II long, with rows of two kinds of spines, one long, and the other in between are very short and curved . . . Mimetidæ.

No such spine arrangement on legs . . . . 18.

18. Males only: — mandibles concave from in front, and bowed outward in middle; tibia of male palpus with a process on outer side at base Dictynidæ.

Males and females: — former never with such mandibles, and tibia of palpus not often armed at base . . . . 19.

19. Upper spinnerets long and two-jointed; or else with the mandibles geniculate at base, and the A. M. E. only dark; no comb on hind tarsi; legs with spines; making flat irregular webs . . . . . . 20.

Upper spinnerets not long and two-jointed, mandibles not prominently geniculate at base, other eyes besides A. M. E. are dark; S. E. often contiguous . . . . 21.

20. Males only: — A. M. E. scarcely diameter from clypeal margin, upper spinnerets not two-jointed . . . . Dictynidæ.

Males and females: — upper spinnerets two-jointed, or else the A. M. E. are some distance from clypeal margin . . . . . Agalenidæ.

21. A comb on hind tarsus; legs usually without spines; abdomen often globose; maxillæ inclined over lip; clypeus as high as eye-area Theridiidæ.

No such comb; maxillæ usually less inclined over lip; spines often present on legs . . . . 22.

22. Epigynum of female a simple slit; male palpus has a bulb on end of

tarsus terminating in a simple tube; legs rather short, body never high and broad; mandibles not large and porrect . . . Scytodidæ.

Male palpus has the palpal organ quite complicated, and the tarsus partly covers it; the epigynum is more than a slit, else the mandibles are large and porrect, or the abdomen very elongate . . . . 23.

23. At base of mandibles on outer side is a striate or roughened area; clypeus high, higher than height of eye-area; no accessory claws (or serrate bristles) at tip of tarsi; male palpal organ with a tarsal hook; making irregular webs . . . . Linyphiidæ.

At base of mandibles there is no such roughened area, but usually a smooth swelling or boss; clypeus low, usually not as high as height of eye-area; accessory claws (or serrate bristles) at tip of tarsi; making geometric webs . . . . Epeiridæ.

24. Two eyes only in anterior row; clypeus not as high as ocular area 25.

Usually four eyes in front row, if but two, then clypeus is much higher than ocular area . . . . 26.

25. Eyes in four rows, the anterior practically at the clypeal margin, abdomen long and slender . . . . . Podophthalmidæ.

Eyes not in four rows, the anterior row some distance from clypeal margin; P. M. E. closer to A. S. E. than latter to A. M. E.; body not long and slender . . . . Ctenidæ.

26. Males only: — eyes of second row very much larger than all other eyes together, abdomen long and linear . . . . Dinopidæ.

Males only: — abdomen not long and linear, eyes not as above; head very low in front; at tips of tarsi are accessory claws as in Epeiridæ, leg I much larger and longer than others . . . . Uloboridæ.

Males and females: — Eyes of second row never so large; abdomen not linear; head rather high or else leg I not larger and longer than leg IV; no accessory claws at tips of tarsi . . . . . . 27.

27. But two eyes in anterior row, or if four, then median eyes are very small and fully three times their diameter from the side eyes; clypeus very high . . . . Oxyopidæ.

Four eyes in anterior row, middle eyes never so very much smaller nor so far from the side eyes; clypeus much lower . . . . 28.

28. Eyes in three rows, 4–2–2, those of anterior row very much smaller than others; cephalothorax rather long and narrow, clypeus nearly vertical; no spur at tip of tibia of male palpus . . . Lycosidæ.

Eyes in two curved rows, those of anterior row not so much smaller than others; the cephalothorax broad and flattened; clypeus often sloping; a spur at tip of tibia of male palpus . . . Pisauridæ.

29. Eyes in three rows, 4–2–2, those of second row very much larger than all other eyes together, abdomen very long and linear . Dinopidæ.

No such eye conditions; abdomen shorter . . . . . 30.

30. S. E. as far apart as M. E.; clypeus low; cephalothorax broad Uloboridæ.

S. E. closer to each other than are the M. E., clypeus high, or if low, then cephalothorax is not unusually broad . . . Dictynidæ.

31. Eyes plainly in three groups of two each ; colored species . . 32.

Eyes in two groups of three each, or else all in one group ; small, pale species . . . . 33.

32. A pair of stigmata just behind lung-slits ; anterior legs large and heavy, never small species . . . . Dysderidæ.

No such stigmata ; legs without spines, slender ; male palpus at tip of tarsus, lip united to sternum . . . . Scytodidæ.

33. Cephalothorax broad and flat ; legs long and slender, none of femora thickened, mandibles small . . . . Pholcidæ.

Cephalothorax more elongate, not flat ; mandibles of normal size 34.

34. Legs with spines, and not slender ; no cribellum ; male palpus partly covered by tarsus, dark species . . . . . . Agalenidæ.

Legs without spines, or else very slender ; usually small and pale species 35.

35. Female with cribellum and calamistrum ; male has palpal organ partly covered by tarsus ; no shields on abdomen, legs without spines Dictynidæ.

Female without cribellum or calamistrum ; male has palpal organ at tip of tarsus, wholly exposed . . . . 36.

36. Cephalothorax highest in front of middle ; leg I long and stouter than others ; three claws to each tarsus . . . . . . Leptonetidæ.

Cephalothorax highest behind middle ; femora IV thickened at base ; two claws to each tarsus . . . . Oönopidæ.

THERAPHOSIDÆ.

Palpus arising from the outer basal side of the maxillæ . Atypinæ.

Palpus arising from near or at tip of maxillæ . . Theraphosinæ.

Atypinæ.

We have but one genus, Atypus, which is rare in the eastern States, with apparently two species. They live in silken tubes which extend some distance above the ground.

Theraphosinæ.

1. Tarsi with a third claw ; no tuft or fascicle of hairs at tip . . 2.

Tarsi with but two claws, a fascicle of hairs at tip . . . 13.

2. Post-abdomen some distance above spinnerets ; dorsal groove longitudinal ; furrow of mandibles indistinct . . . . . . 11.

Post-abdomen just above spinnerets ; dorsal groove transverse or elliptic ; furrow of mandibles distinct . . . . 3.

3. Upper spinnerets rather short, last joint short and obtuse; mandibles with a cluster of teeth, or rastellum, in front . . . . . . 5.
Upper spinnerets long, and last joint slender; mandibles without rastellum . . . . 4.
4. Tarsi and metatarsi I partly scopulate; all tarsi unarmed Brachythele.
Tarsi and metatarsi I not scopulate; hind tarsi with spines Evagrus.
5. Tibia III with a deep sulcation above at base . . . . . 6.
No such sulcation . . . . 7.
6. Tip of abdomen broadly truncate, having an almost circular outline Cyclocosmia.
Tip of abdomen normal . . . . . . Pachylomerus.
7. Tarsi I and II not scopulate; with stout spines . Bothriocyrtum.
Tarsi I and II scopulate . . . . 8.
8. Sternal impressions large, close together, and far from margin Myrmeciophila.
Sternal impressions small and near the margin . . . . . 9.
9. Mandibles with four long, equal teeth in front forming the rastellum Actinoxia.
Rastellum of many irregular spines . . . . 10.
10. Tarsus I equal to metatarsus I, latter with only apical spines Amblyocarenum.
Tarsus I shorter than metatarsus I, latter with many spines Aptostichus.
11. With but four spinnerets . . . . . . Brachybothrium.
With six spinnerets . . . . 12.
12. Apical joint of upper spinnerets much longer than preceding; mandibles without a rastellum; no sternal impressions . . . Hexura.
Apical joint of upper spinnerets barely longer than preceding; mandibles with a rastellum; two pairs of small sternal impressions Atypoides.
13. Tibiæ and metatarsi III and IV with very few spines; tarsi shorter and broader . . . . 15.
Tibiæ and metatarsi III and IV with many spines; tarsi longer 14.
14. Metatarsi I scopulate to base, rarely with basal spines Eurypelma.
Metatarsi I not scopulate to base; basal spines present Rhechostica.
15. Eyes of anterior row scarcely unequal, forming a strongly procurved row . . . . Avicularia.
Eyes of anterior row distinctly unequal, forming a nearly straight row Tapinauchenius.

FILISTATIDÆ.

We have but one genus in this country, Filistata, and probably but one species, which is frequent about buildings in the southern States.

UROCTEIDÆ.

We have but one genus in this country, Thalamia Hentz, with two species in the South.

LEPTONETIDÆ.

1. The six eyes in two groups, four in a row in front, and two behind Leptoneta.

The six eyes in three groups of two each, two in the middle and two each side . . . . 2.

2. S. E. form a diverging line, and touch by their sides . . Usofila.

S. E. touch at one point, and form a single opening within Ochyrocera.

OÖNOPIDÆ.

Abdomen soft, globose . . . . Orchestina.

Abdomen with corneous shield, elongate . . . Gamasomorpha.

SCYTODIDÆ.

1. With eight eyes ; body dark . . . . . . · Plectreurys.

With but six eyes . . . . 2.

2. Cephalothorax elevated behind, eye-groups widely separate ; three claws to each tarsus ; palpus of female with a claw at tip . . Scytodes.

Cephalothorax not elevated behind ; eye-groups more approximate ; palpus of female without claw at tip . . . . 3.

3. Three claws to each tarsus ; anterior eye-row nearly straight ; cephalothorax very slender . . . . Diguetia.

Two claws to each tarsus ; anterior eye-row recurved ; cephalothorax broader . . . . Loxosceles.

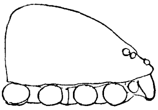

FIG. 6.— Cephalothorax of Scytodes.

PHOLCIDÆ.

1. With six eyes situated rather close together upon a prominent eminence Modisimus.

Eyes not on an eminence, and in two groups . . . . . 2.

2. With but six eyes . . . . Spermophora.
With eight eyes . . . . 3.
3. A. M. E. much closer to each other than to A. S. E.; femora very long; abdomen elongate . . . . Pholcus.
A. M. E. as close to A. S. E. as to each other; abdomen globose 4.
4. Femur I not twice the length of cephalothorax, and shorter than femur IV . . . . Pholcophora.
Femur I twice as long as cephalothorax . . . . . . 5.
5. Posterior eye-row slightly procurved; femur I longer than IV Psilochorus.
Posterior eye-row slightly recurved; femur I shorter than IV Physocyclus.

DYSDERIDÆ.

1. Leg III directed backward; spines on sides of tibiæ IV; tarsi scarcely one fourth the length of metatarsi; no spines under metatarsi I Dysdera.
Leg III directed forward; no spines on sides of tibiæ IV; tarsi fully one third the length of metatarsi; spines under metatarsi I . . 2.
2. The M. E. rather closer to A. S. E. than to P. S. E. . . Segestria.
The M. E. closer to P. S. E. than to A. S. E. . . . Ariadne.

PRODIDOMIDÆ.

This is represented in our country by but one genus, Prodidomus Hentz, with one species, found in dark situations in houses in the southern States. An allied genus, Zimiris, occurs in Mexico, and differs from Prodidomus in having the inferior spinnerets very much longer than the others.

ZODARIIDÆ.

With but two distinct spinnerets; cephalothorax rather high; tarsi with 3 claws . . . . Lutica.
With more than two spinnerets; cephalothorax rather flat; tarsi with but two claws . . . . Homalonychus.

DRASSIDÆ.

1. Mandibles with a plate or lobe on under side behind the fang; posterior eye-row plainly recurved . . . . 2.
Mandibles without such plate, only one or two teeth; posterior eye-row often procurved or straight, rarely a little recurved . . . . . 3.
2. Posterior eye-row broader than anterior row; P. S. E. not much larger than P. M. E.; head broad . . . . Gnaphosa.

Posterior eye-row not broader than anterior row; P. S. E. plainly larger than P. M. E.; head narrow . . . . Callilepis.

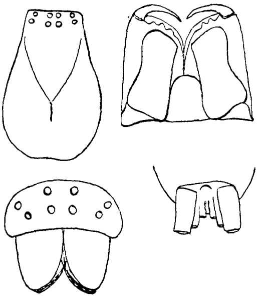

Fig. 7.—Drassidæ; face, cephalothorax, mouthparts, and spinnerets.

3. No dorsal groove; posterior eye-row slightly recurved; cephalothorax reddish yellow . . . . Sergiolus.
Dorsal groove present, posterior eye-row rarely recurved . . 4.
4. P. M. E. much nearer to P. S. E. than to each other; cephalothorax and abdomen bivittate . . . . Cesonia.
P. M. E. as near each other as to P. S. E., or at least, abdomen not bivittate . . . . 5.
5. Upper spinnerets plainly two-jointed, and longer than the lower pair; large dark-colored species; tarsi and metatarsi I, II, and III heavily scopulate . . . . Teminius.
Upper spinnerets not plainly two-jointed and not longer than lower pair . . . . 6.
6. Posterior eye-row slightly recurved; P. M. E. widely separate; no spine above on base of tibiæ III and IV . . . . 7.
Posterior eye-row straight or procurved . . . . . . 8.
7. Posterior eye-row plainly broader than anterior row; P. S. E. barely, if any, larger than P. M. E.; S. E. more than diameter apart Pœcilochroa.
Posterior eye-row barely longer than anterior row; P. S. E. much larger than P. M. E.; S. E. not diameter apart; smaller spiders Eilica.
8. Posterior eye-row plainly procurved, P. M. E. oval . . . . 9.
Posterior eye-row little if at all procurved, and usually barely longer than anterior row . . . . 11.
9. Posterior barely longer than anterior row; P. M. E. approximate and larger than P. S. E. . . . . Megamyrmecion.
Posterior row plainly longer than anterior row; P. M. E. rather widely separate . . . . 10.
10. Two spines above on tibiæ III and IV . . . . Drassodes.

No spines above on tibiæ III and IV . . . . . . Drassus.

11. P. M. E. large, oval, contiguous or nearly so ; no spine above on base of tibiæ III and IV; usually with but one or two spines below tibia I Zelotes.

P. M. E. smaller, nearly round, and plainly separate ; a spine above on base of tibiæ III and IV ; usually four to six spines below tibia I Herpyllus.

P. M. E. smaller, oval, well separated; no spines above on base of tibiæ III and IV ; ten spines below on tibia I . . Drassinella.

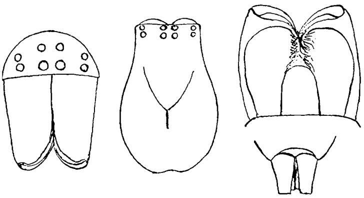

FIG. 8.— Clubionidæ ; face, cephalothorax, mouthparts, and spinnerets.

CLUBIONIDÆ.

1. On the venter there is a transverse furrow, remote from spinnerets, representing the openings of the posterior spiracles . . . . 10.

No such furrow remote from spinnerets . . . . . . 2.

2. Two rows of large spines under tibiæ I and II, more than two in each row . . . . 11.

Not more than 2–2 spines under tibiæ I and II, or else irregularly situate, and banded legs . . . . 3.

3. Maxillæ impressed with an oblique furrow, as in the Drassidæ, no dorsal groove . . . . Micaria.

Maxillæ without furrow, convex; dorsal groove usually present . 4.

4. Leg I plainly longer than IV ; body and legs pale ; spines on legs Chiracanthium.

Leg I not longer than IV . . . . 5.

5. No spines on legs, or only a few under tibia I . . . . . 6.

Spines fairly numerous on legs . . . . 7.

6. Posterior eye-row strongly recurved . . . . . Trachelas.

Posterior eye-row straight . . . . Meriola.

7. A. M. E. several times their diameter from clypeal margin ; often a horny spot near base of abdomen ; legs usually partly dark Castaniera.

A. M. E. scarcely diameter from clypeal margin, no horny spot on abdomen, legs never dark . . . . 8.

8. Lip longer than wide ; mandibles long ; cephalothorax not mottled. Clubiona.

Lip broader than long; cephalothorax mottled with brown . . 9.
9. Anterior eye-row procurved . . . . Agrœca.
Anterior eye-row recurved . . . . Hilke.
10. The furrow at or before middle of venter; A. M. E. equal to A. S. E. Anyphæna.
The furrow behind the middle of venter; A. M. E. smaller than A. S. E. Gayenna.
11. Sternum broad, prolonged between hind coxæ; posterior eye-row not recurved, tibia I with five or six pairs of spines below . Phrurolithus.
Sternum not prolonged between hind coxæ which are nearly contiguous . . . . 12.
12. Posterior eye-row slightly procurved; five pairs of spines under tibia I Chemmis.
Posterior eye-row recurved . . . . 13.
13. But 3–3 spines under tibia I; two spines above on tibiæ III and IV Syspira
At least 5–5 spines under tibia I . . . . 14.
14. Eyes subequal in size; anterior eye-row recurved . Liocranoides.
Eyes unequal in size; anterior eye-row not recurved . . . 15.
15. A. M. E. smaller than A. S. E.; posterior row weakly recurved Apostenus.
A. M. E. larger than A. S. E.; posterior eye-row strongly recurved Zora.

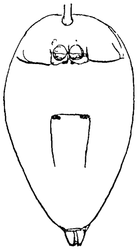

FIG. 9.—Venter of Anyphæna.

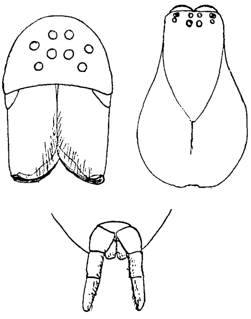

FIG. 10.—Agalenidæ; face, cephalothorax, and spinnerets.

AGALENIDÆ.

1. Spinnerets arranged in one nearly straight transverse row . Hahnia.
Spinnerets close together, in two rows . . . . . . 2.
2. But six eyes, the A. M. E. lacking . . . . . Chorizomma.
With eight eyes . . . . 3.
3. Both eye-rows very strongly procurved, so much so that the A. M. E. form a nearly straight line with the P. S. E.; cephalothorax narrow in front . . . . Agalena.

Both eye-rows not so strongly procurved . . . . 4.

4. A. M. E. much larger than any other eyes ; quadrangle of M. E. as broad below as above . . . . Coras.

A. M. E. not larger than other eyes ; quadrangle usually narrower in front . . . . 5.

5. Upper spinnerets of but one joint and not longer than lower pair ; posterior eye-row straight or even a little recurved ; tarsi I plainly more than one half as long as metatarsus ; mandibles geniculate at base Cybæus.

Upper spinnerets of two joints and longer than lower pair . . 6.

6. Basal spine on outer side under tibiæ I and II not reaching to next spine ; larger spiders . . . . 7.

Basal spine on outer side under tibiæ I and II reaches to next spine ; smaller spiders . . . . 8.

7. Mandibles plainly geniculate at base ; legs less slender . . Cœlotes.

Mandibles not or barely geniculate at base ; legs very slender Tegenaria.

8. P. M. E. situated fully their diameter apart . . . . . Cicurina.

P. M. E. less than diameter apart, and closer to the S. E. Cryphœca.

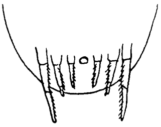

FIG. 11.—Spinnerets of Hahnia.

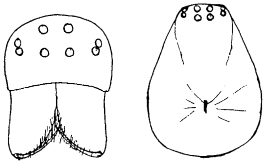

FIG. 12 —Theridiidæ ; face and cephalothorax.

THERIDIIDÆ.

1. Abdomen with hard skin and furnished with several humps ; small species ; sternum truncate behind . . . . Ulesanis.

Abdomen without humps and skin soft . . . . 2.

2. S. E. widely separate ; posterior eye-row recurved . . . . . 3.

S. E. contiguous or nearly so . . . . 4.

3. Leg IV as long as I ; abdomen rather flat, and broad behind Epesinus.

Leg I longer than IV ; abdomen globose . . . . Lathrodectus.

4. P. M. E. fully four times their diameter apart ; abdomen prolonged behind ; leg IV about as long as I . . . . . . Spintharus.

P. M. E. rarely over twice diameter apart . . . . 3.

5. A. M. E. larger than P. M. E. and much wider apart ; clypeus rather high and concave ; legs short, IV often as long as I ; palpi thick in female . . . . 6.

A. M. E. rarely larger than P. M. E., if so then not wider apart . . 7.

6. Abdomen pointed behind and somewhat flat . . . . Euryopis.

Abdomen more globose, broadly rounded behind . . . . Dipœna.

7. Cephalothorax with a transverse furrow in the middle; abdomen usually produced above behind, no chitinous pieces at base; leg I longer than IV . . . . 8.

Cephalothorax with only the ordinary dorsal groove or impression; abdomen not prolonged behind . . . . 9.

8. Abdomen very long and slender, vermiform . . . Ariamnes.

Abdomen much shorter . . . . Argyrodes.

9. On that part of the abdomen that overhangs the cephalothorax there is a chitinous curved piece each side, in the female not prominent, in the male much more so (they form a stridulating organ); colulus present. Leg I usually but little longer than IV; femur I rarely more than one and one fourth length of cephalothorax; leg IV usually longer than II . 10.

No such pieces on base of abdomen, colulus absent; leg I much longer than IV, which is often shorter than II; femur I usually one and one half to twice the length of cephalothorax . . . . . . 17.

10. Sternum broadly truncate between coxæ IV; small species Crustulina.

Sternum pointed behind; coxæ IV closer together . . . 11.

11. S. E. slightly, but distinctly separate, lower eye-row nearly straight; P. M. E. not large, and rather widely separate . . Lithyphantes.

S. E. contiguous . . . . 12.

12. P. M. E. plainly larger than A. M. E.; abdomen not black, with two yellow spots . . . . 13.

P. M. E. not larger than A. M. E. . . . . 14.

13. Leg IV a little longer than I, all short . . . Pedanostethus.

Leg IV plainly shorter than I, both long and slender . . Teutana.

14. A. M. E. much larger than A. S. E.; leg I longer than IV . Steatoda.

A. M. E. not larger than A. S. E. . . . . 15.

15. Leg IV plainly longer than I; sternum granulate . . Asagena.

Leg I a trifle longer than IV . . . . 16.

16. Femur I not one and one fourth as long as cephalothorax; abdomen rather depressed . . . . Enoplognatha.

Femur I nearly twice as long as cephalothorax; abdomen more slender, and in male, constricted near middle . . . . Coleosoma.

17. Sternum truncate between hind coxæ; tarsal claws with few or no teeth; leg I not much longer than IV . . . . 18.

Sternum pointed behind; hind coxæ more approximate; tarsal claws pectinate; abdomen usually globose; leg I often much longer than IV 23.

18. No shields or sigillæ on the abdomen . . . . 19.

Shields or sigillæ on abdomen . . . . 21.

19. Abdomen globose; cephalothorax short and high, narrow in front 20.

Abdomen elongate; cephalothorax broad in front; legs banded Ceratinops.[1]

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[1] Ceratinops, new genus for *Ceratinella annulipes* Banks.

20. Tibia I not as long as cephalothorax; cephalothorax very broad; male eyes elevated . . . . Microdipœna.
 Tibia I longer than cephalothorax, which is more elongate than preceding . . . . Mysmena.
21. Abdomen with shield across base . . . . . . Idionella.
 Shield not across base . . . . 22.
22. Abdomen of both sexes with dorsal shield; male with horn from eye-region; no stiff bristles under femur I . . . . . Histiagonia.
 Abdomen of female without dorsal shield, only sigillæ; male without frontal horn; a row of stiff bristles under femur I . . Ancylorrhanis.
23. Anterior eye-row procurved; tibia of male palpus large; female with abdomen swollen in middle each side . . . . . Theridula.
 Anterior eye-row straight or recurved; tibia of male palpus not enlarged; female not with swollen sides . . . . Theridium.

LINYPHIIDÆ.

1. Cave spiders; no claw at tip of palpus of female . . . . . 2.
 Not cave spiders . . . . 4.
2. Without eyes; sternum broad . . . . Antrobia.
 With eyes . . . . 3.
3. P. M. E. about as close to P. S. E. as to each other; A. M. E. barely diameter apart . . . . Phanetta.
 P. M. E. much closer to each other than to P. S. E.; A. M. E. several diameters apart . . . . Troglohyphantes.
4. No claw to tarsus of female palpus; epigynum without a finger or hook; male palpus with a tibial apophysis, usually but one spine above on tibia IV . . . . (Erigoninæ) 16.
 A claw to palpus in female; epigynum with a finger or hook; male palpus without a tibial apophysis, although sometimes enlarged or a tooth at tip; usually two spines or erect bristles above on tibia IV (Linyphinæ) 5.
5. Legs without spines; mandibles long, and their lower anterior border provided with several long, slender teeth; A. M. E. larger than P. M. E. Tapinopa.
 Legs with at least a few spines, or not agreeing with above . 6.
6. Mandibles long, slender, divergent, in front with 3 pairs of long spines, abdomen depressed and rather broad; P. M. E. less than diameter apart Drapetisca.
 Mandibles without the 3 pairs of spines in front . . . . 7.
7. Tibiæ without lateral spines; metatarsus I not longer than tibia I; usually small spiders . . . . 8.
 Tibiæ with lateral spines; metatarsus I usually as long as, often longer than, tibia I; larger spiders . . . . 9.

8. Posterior eyes closer together; S. E. on slight tubercles; legs long and very slender . . . . Microneta.
Posterior eyes farther apart; S. E. not on tubercles; legs less slender Tmeticus.

9. P. M. E. plainly closer to P. S. E. than to each other, and larger than S. E.; femora with few if any spines . . . . . . Neriene.
P. M. E. not closer to P. S. E. than to each other . . . . 10.

10. No spines on metatarsi; P. M. E. rather close together Bathyphantes.
Spines on metatarsi, at least one . . . . 11.

11. P. M. E. very much larger than S. E., two or three times larger, about one diameter apart, and as far from very small S. E., which are no larger than A. M. E.; abdomen slender . . . . . . Linyphiella.[1]
P. M. E. not much larger than other eyes . . . . . . 12.

12. P. M. E. at least two diameters apart, or else plainly farther from S. E. than from each other; quadrangle of M. E. plainly wider above than below . . . . Linyphia.
P. M. E. scarcely more than diameter apart, and about as close to P. S. E. . . . . 13.

13. All femora with some distinct spines . . . . 14.
All femora not with distinct spines . . . . 15.

14. Tarsus I two thirds of metatarsus I; quadrangle of M. E. rather narrower below . . . . Bolyphantes.
Tarsus I only one half of metatarsus I; quadrangle of M. E. as wide below as above . . . . Labulla.

15. Abdomen high and broad at base, tapering to a point behind Lepthyphantes.
Abdomen elliptical or even broader beyond middle, not tapering behind Frontinella.

16. Tarsus I only about one half as long as metatarsus I, male with lobate head . . . . Hypselistes.
Tarsus I two thirds or more of length of the metatarsus I . . 17.

17.[2] Dorsum of male abdomen with a corneous shield; often present also in female . . . . 18.
Dorsum of abdomen in both sexes without shield . . . . 20.

18. Sternum broadly truncate and slightly concave behind between hind coxæ; usually some corneous pieces on venter; tarsi I but little shorter than metatarsi I . . . . Ceratinella.
Sternum less broad and somewhat convex behind between hind coxæ; no corneous pieces on venter . . . . 19.

19. Tarsi I plainly shorter than metatarsi; no hole in side of male head; P. M. E. but little higher than A. M. E. . . . . . Exechophysis.

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[1] Linyphiella, new genus for *Linyphia coccinea* Hentz.

[2] Beyond this the table is based on males, although females will frequently run to proper place.

Tarsi I about as long as metatarsi; a hole in side of head of male; P. M. E. much higher than A. M. E. . . . . Lophocarenum.

20. Head of male with a horn from middle of eye-region; sternum rather elongate; posterior eye-row strongly procurved . . Cornicularia.

Head of male without such horn; sternum often broad, triangular 21.

21. Head of male plainly lobed, or at least with a hole in side behind S. E. 22.

Head of male not lobed, nor with a hole in side . . . 26.

22. Metatarsus I of male swollen in middle . . . Caracladus.

Metatarsus I normal . . . . 23.

23. Male with two large and two small tufts of bristles in middle of eye-region; posterior eye-row very strongly procurved . Panamonops.

Male without such tufts; posterior eye-row but little procurved 24.

24. P. M. E. situate upon top of lobe of male . . . . . . 25.

Lobe of male not bearing eyes . . . . . . Dismodicus.

25. Sternum broad, triangular . . . . Diplocephalus.

Sternum more slender . . . . Walckenæra.

26. Male having a horn from middle of clypeus . . Delorrhipis.

Male without such horn . . . . 27.

27. Male palpus with enlarged femur; head of male elevated; posterior eye-row slightly recurved; legs slender . . . . Gonatium.

Male palpus with femur normal . . . . 28.

28. A projection below at tip of tibia of male palpus; sides of cephalothorax often with teeth; posterior eye-row slightly recurved . Erigone.

No such projection to tibia of male palpus . . . . . 29.

29. S. E. situate on a slight elevation, making head broad in front; sternum rather broadly truncate behind between hind coxæ; tibia I shorter than the cephalothorax . . . . 30.

S. E. not on elevation; sternum narrowly, if at all, produced between hind coxæ . . . . 31.

30. Two rows of spines under metatarsus IV; female with large lateral spines under tibiæ and metatarsi I and II . . . . . Maso.

No rows of spines under metatarsus IV, nor under tibiæ and metatarsi I and II . . . . Ceratinopsis.

31. Tibia I longer than cephalothorax; legs very slender; sternum narrowly truncate between hind coxæ; head of male elevated Notionella.[1]

Tibia I shorter than cephalothorax . . . . 32.

32. Two rows of spines under tibiæ and metatarsi I and II Satilatlas.

No such spines under these joints . . . . 33.

33. P. M. E. closer to each other than to P. S. E.; a hump behind eye-region in male . . . . Grammonota.

Eyes of posterior row about equidistant; no hump behind eye-region . . . . 34.

---

[1] Notionella, new genus for *Ceratinopsis interpres*.

34. Distance between eyes of posterior row not much greater than diameter of an eye . . . . 35.
Distance between eyes of posterior row more than two diameters of an eye . . . . Acartauchenius.
35. Head of male elevated . . . . Tiso.
Head of male not elevated . . . . . . Gonglydium.

MIMETIDÆ.

Clypeus lower than ocular area ; hind legs much shorter than front legs ; lip much longer than broad . . . . Mimetus.
Clypeus as high as ocular area ; hind legs not much shorter than front legs ; lip but little longer than broad . . . . Ero.

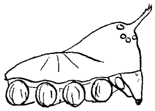

FIG. 13.— Cephalothorax of Cornicularia.

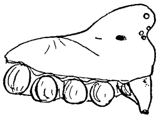

FIG. 14.— Cephalothorax of Diplocephalus.

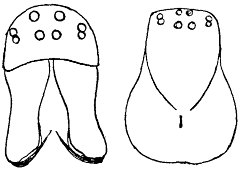

FIG. 15.— Dictynidæ; face and cephalothorax.

DICTYNIDÆ.

1. Legs without spines ; cribellum usually undivided in middle by a line . . . . 3.
Legs with spines ; cribellum divided by a line ; clypeus very low 2.
2. Maxillæ inclined over the lip ; hind legs unspined . Titanœca.
Maxillæ straight ; hind legs with spines . . . . Amaurobius.
3. With but six eyes ; colors pale . . . . . . Neophanes.
With eight eyes, but A. M. E. are sometimes very small . . . 4.
4. Cribellum divided by a line in middle . . . . Dictynina.
Cribellum undivided . . . . 5.
5. A. M. E. very minute . . . . 6.
A. M. E. subequal to others . . . . 7.
6. A. M. E. higher than A. S. E. . . . . . . Dictyolathys.
A. M. E. between A. S. E. . . . . Prodalia.
7. Lip one third shorter than maxillæ . . . . . . Lathys.
Lip nearly as long as maxillæ . . . . Dictyna.

DINOPIDÆ.

We have but one genus, Dinopis, in this country, with one species ; a long and slender spider, not common throughout the southern States.

Uloboridæ.

All eyes subequal in size, cephalothorax more elongate . Uloborus.
Eyes of posterior row very much larger than those of anterior row, in fact the A. S. E. are almost invisible . . . . . . Hyptiotes.

Epeiridæ.

1. Mandibles large, strongly divergent, abdomen and legs more or less elongate . . . . Tetragnathinæ.
Mandibles smaller, not strongly divergent . . . Epeirinæ.

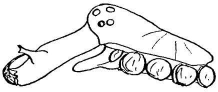

Fig. 16. — Cephalothorax of Tetragnatha.

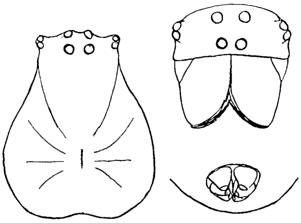

Fig. 17.— Epeiridæ; cephalothorax, face, and spinnerets.

Tetragnathiniæ.

1. Abdomen with a transverse ventral furrow near middle; abdomen not twice as long as broad . . . . Glenognatha.
Abdomen without such furrow . . . . 2.
2. Abdomen not twice (or barely) as long as broad, not much longer than cephalothorax . . . . Pachygnatha.
Abdomen three or four times as long as broad . . . . . 3.
3. S. E. as close or closer than M. E. . . . . . Tetragnatha.
S. E. farther apart than M. E. . . . . 4.
4. Abdomen projecting beyond spinnerets in a tail . . . Eucta.
Abdomen not projecting beyond spinnerets in a distinct tail Eugnatha.

Epeirinæ.

1. Abdomen with a horny shield, or at least with sigillæ; leg IV longer than I . . . . 2.
Abdomen without shield or sigillæ; leg IV shorter than I . . 4.
2. Spinnerets enclosed at base by a horny ring; abdomen with spines 3.
Spinnerets not enclosed by horny ring; abdomen without spines Cercidia.

3. Cephalothorax as broad as long; abdomen broader than long Gasteracantha.

Cephalothorax and abdomen longer than broad . . Acrosoma.

4. Cephalothorax bearing spines or tubercles . . . Ordgarius.

Cephalothorax without spines or tubercles . . . . . 5.

5. Posterior eye-row strongly procurved; metatarsus plus tarsus I plainly longer than tibia plus patella I; cephalothorax rather flat . . . 6.

Posterior eye-row barely, if at all, procurved . . . . . . 7.

6. A. M. E. nearer to each other than to A. S. E., large species Argiope.

A. M. E. as near to A. S. E. as to each other; small species Gea.

7. All metatarsi longer than tibia plus patella; abdomen subcylindric; maxillæ longer than broad; S. E. separate by fully two diameters; legs often with bands of erect hair . . . . Nephila.

Metatarsi shorter than tibia plus patella, rarely equal in fore legs; when so, then maxillæ shorter than broad, S. E. approximate, and no bands of erect hair on legs . . . . 8.

8. Hind femora with a fringe of curved hairs at base; abdomen subcylindric; S. E. approximate; P. M. E. only about twice as far from P. S. E. as from each other; legs very slender and with only a few slender spines Leucauge.

Hind femora without such fringe of erect, curving hairs at base 9.

9. Cephalothorax much elevated behind, sloping forward to eye-region 10.

Cephalothorax not prominently elevated behind . . . . . 11.

10. Legs with long spines; P. M. E. less than diameter apart; no tubercles on abdomen . . . . Mangora.

Legs without spines, or very weak ones; P. M. E. fully two diameters apart; abdomen with tubercles . . . . . . Carepalxis.

11. Abdomen with a median hump or cone at base, as well as lateral projections; sternum rather long; clypeus high . . . . . Plectana.

Abdomen without median together with lateral projections . . 12.

12. S. E. separated by fully diameter and on separate tubercles . 13.

S. E. contiguous or nearly so, at least upon the same eminence . 14.

13. P. M. E. small and close together; mandibles slender Dolichognatha.

P. M. E. equal to others and widely separate . . . Azilia.

14. P. M. E. scarcely more than one and a half diameter apart, and as close to the P. S. E. as to each other; S. E. slightly separate; all eyes subequal in size; epigynum without a finger . . . . . 15.

P. M. E. much closer to each other than to P. S. E. . . . 18.

15. Tarsus IV with many serrated bristles beneath; small spider with globose abdomen . . . . Theridiosoma.

Tarsus IV without serrate bristles beneath; larger species; abdomen not globose . . . . 16.

16. Maxillæ twice as long as broad; mandibles long and slender; abdomen convex above . . . . Meta.
Maxillæ not twice as long as broad . . . . 17.
17. Abdomen elliptical, rather depressed, without humps at base Zilla.
Abdomen subcylindric, with two small humps at base . . Hentzia.
18. No spines above on tibiæ I and II . . . . 19.
With some spines, at least one, above on tibiæ I and II . . 20.
19. Abdomen with spines or humps; cephalothorax broad and tumid in front . . . . Wagneriana.
Abdomen without spines or humps . . . . . Metazygia.
20. Legs very slender, especially leg I, almost destitute of spines; cephalothorax very slender; posterior eye-row strongly recurved Acacesia.
Legs less slender and with a number of distinct spines, or else the posterior eye-row not strongly recurved . . . . 21.
21. Abdomen pointed at base, elongate, sternum one and one half longer than broad; P. M. E. scarcely diameter apart . . . Larinia.
Abdomen not pointed in middle at base . . . . . . 22.
22. Abdomen as high behind middle as at base, and elliptical in outline or broader behind middle; P. M. E. about diameter apart; epigynum without finger; small species, with short legs . . . . . Singa.
Abdomen highest toward base, and usually broadest near base . 23.
23. Cephalothorax with a broad transverse furrow (at least in female); abdomen usually prolonged above behind; A. S. E. never twice as far from A. M. E. as latter from each other; quadrangle of M. E. plainly wider below than above; legs more hairy . . . . . Cyclosa.
Cephalothorax without such furrow; abdomen rarely prolonged above behind; legs more spiny . . . . Epeira.

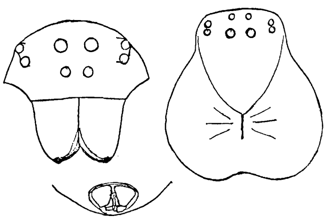

FIG. 18.— Thomisidæ; face, cephalothorax, and spinnerets.

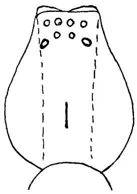

FIG. 19.— Cephalothorax of Pisaurina.

THOMISIDÆ.

1. Legs III and IV not or scarcely shorter than legs I and II; tarsi I and II scopulate (at least in females); hairs of body usually branched, prone not erect . . . . (Philodrominæ) 2.

Legs III and IV much smaller than I and II; tarsi I and II not scopulate; hairs of body, simple, scattered, and erect. (Misumeninæ) 7.

2. Leg II very much longer than I; posterior eye-row almost straight; cephalothorax broad . . . . Ebo.

Leg II but little longer than I; posterior eye-row very plainly recurved 3.

3. Five pairs of spines under tibiæ I and II; P. M. E. nearer to P. S. E. than to each other . . . . Philodromoides.

Less than 5–5 spines under tibiæ I and II . . . . . . 4.

4. P. M. E. farther apart than from P. S. E.; abdomen not very slender; leg IV shorter than leg I . . . . Philodromus.

P. M. E. not nearer P. S. E. than to each other, or if barely so then leg IV is longer than I . . . . 5.

5. P. M. E. much nearer to each other than to P. S. E.; abdomen long and slender; leg IV longer than I . . . . Tibellus.

P. M. E. about as near P. S. E. as to each other . . . . 6.

6. Leg IV shorter than leg I . . . . Apollophanes.

Leg IV longer than leg I . . . . Thanatus..

7. Legs I and II with spines only under tibiæ and metatarsi, at most with one or two very minute ones elsewhere . . . . 8.

Legs I and II with distinct spines elsewhere . . . . 10.

8. Abdomen furnished behind with two prominent conical projections Thomisus.

Abdomen without two projections behind . . . . . . 9.

9. A ridge between eye-rows . . . . Runcinia.

No ridge between eye-rows . . . . . . Misumena.

10. Abdomen high and pointed behind; clypeus sloping; tubercle at P. S. E. much larger than at A. S. E. . . . . Tmarus.

Abdomen broadly rounded behind; clypeus more vertical; tubercles of S. E. subequal in size . . . . 11.

11. Cephalothorax very flat; dark colored species . . . Coriarachne.

Cephalothorax moderately high . . . . 12.

12. Abdomen, cephalothorax, and legs pale whitish or yellowish, but little marked except bands on legs of males . . . . . Misumessus.

Abdomen, or cephalothorax and legs, dark, or heavily marked with dark . . . . 13.

13. Quadrangle of M. E. higher than broad; tibiæ I and II with 2–2 spines . . . . Ozyptila.

Quadrangle of M. E. not higher than broad . . . . . 14.

14. Eyes of lower row equidistant; A. M. E. larger than P. M. E.; tibiæ I and II with 3–3 spines . . . . Synæma.

A. M. E. nearer to A. S. E. than to each other, and not larger than P. M. E.; tibiæ I and II with 4–4 or 5–5 spines . . . Xysticus.

SPARASSIDÆ.

1. P. S. E. in a row with anterior eyes; tarsal claws smooth; cephalothorax extremely flat . . . . Selenops.

P. S. E. behind anterior row; tarsal claws toothed; cephalothorax plainly arched . . . . 2.

2. P. S. E. much larger than P. M. E. . . . . Heteropoda.

P. S. E. barely, if at all, larger than P. M. E. . . . . Olios.

PISAURIDÆ.

Anterior eye-row recurved; quadrangle of M. E. broader behind than high; clypeus about as high as quadrangle of M. E. . Dolomedes.

Anterior eye-row straight; quadrangle of M. E. not broader behind than high; clypeus not as high as quadrangle of M. E. . . Pisaurina.

PODOPHTHALMIDÆ.

Area outlined by four anterior eyes is much wider than long Thanatidius.

Area outlined by four anterior eyes is as long as wide Maypacius.

CTENIDÆ.

A. S. E. nearer to A. M. E. than to either P. S. E. or P. M. E. Titiotus.

A. S. E. nearer to P. M. E. or to P. S. E. than to A. M. E. Ctenus.[1]

LYCOSIDÆ.

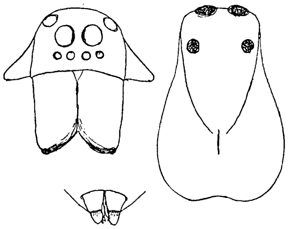

FIG. 20.— Lycosidæ; face, cephalothorax, and spinnerets.

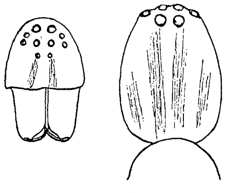

FIG. 21. — Oxyopidæ; face and cephalothorax.

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[1] This includes Cupiennius and Anahita; they differ from Ctenus only by minute or slight characters difficult of verification. Titiotus is unknown to me.

1. Tibiæ III and IV with a stout spine at base above . . . . 4.
Tibiæ III and IV without spine at base above, although there may be one near middle above . . . . 2.
2. No spines above on tibiæ III and IV; long hair above on these joints, head large and high . . . . Geolycosa.
A spine near middle above on tibiæ III and IV . . . . 3.
3. Upper spinnerets not longer than lower; anterior eye-row not wider than the second . . . . Trochosa.
Upper spinnerets longer than lower; anterior eye-row wider than second row; tarsi heavily scopulate . . . . . . Sosippus.
4. Cephalic region with a wedge-shaped mark, containing a central stripe; posterior spinnerets longer than others; eyes of second row scarcely their diameter apart, small species . . . . Pirata.
No such mark on cephalic region; spinnerets subequal in length 5.
5. Tibia I with 4–4 imbricated spines, the basal ones reaching beyond base of second ones beyond; very small species; eyes of second row not their diameter apart . . . . Trabea.
Basal spines on tibia I not reaching beyond base of the third pair, usually but 3–3 spines below . . . . 6.
6. Cephalothorax without median mark of any kind; spines under tibia I very short, 3–3 . . . . Allocosa.
Cephalothorax with a paler median stripe or mark . . . . 7.
7. Head with sloping sides, eyes of second row usually scarcely diameter apart; usually 3–3 short spines under tibia I, the basal pair rarely reaching next pair; lip longer than broad; larger spiders . Lycosa.
Head with more vertical sides; eyes of second row more than diameter apart; 3–3 long spines under tibia I, the basal pair usually reaching next pair; lip not longer than broad; smaller spiders . . Pardosa.

OXYOPIDÆ.

1. Posterior eye-row only slightly procurved; mandibles higher than height of cephalothorax in front; large greenish spiders . Peucetia.
Posterior eye-row strongly procurved; mandibles scarcely as long as height of cephalothorax in front . . . . 2.
2. P. M. E. much closer to P. S. E. than to each other . Hamataliva.
P. M. E. about as close to each other as to P. S. E. . Oxyopes.

ATTIDÆ.

1. Abdomen more or less constricted; cephalothorax usually constricted; pedicel distinctly chitinized . . . . 2.
Neither cephalothorax nor abdomen constricted; pedicel soft . 4.

2. Leg I plainly thicker than the other legs; cephalothorax only slightly constricted . . . . Peckhamia.
   Leg I as slender as others . . . . 3.

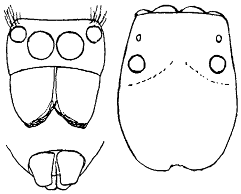

FIG. 22.—Attidæ; face, cephalothorax, and spinnerets.

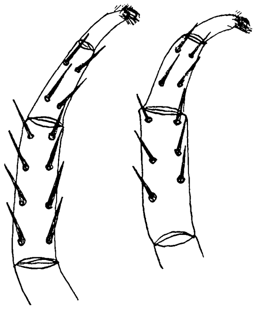

FIG. 23.—Attidæ; two types of spine-arrangement under tibia I.

3. Cephalothorax and abdomen very strongly constricted; apical joints of female palpus slender . . . . Synemosyna.
   Cephalothorax and abdomen but little constricted; apical joints of female palpus enlarged . . . . Myrmarachne.
4. Eyes in four rows; pale green spiders . . . Lyssomanes.
   Eyes in three rows . . . . 5.
5. No spines under tibia I, or at most with one or two small ones 6.
   Several spines under tibia I . . . . 9.
6. Cephalic part very long, reaching almost to base of abdomen; leg I plainly thickened . . . . Homalattus.
   Cephalothorax slopes from before middle to base . . . . 7.
7. Leg I plainly heavier than others . . . . 8.
   Leg I slender, as the others . . . . Salticus.[1]
8. No spines on hind legs . . . . Admestina.
   A few distinct spines on hind legs . . . . . . Ercmattus.
9. Leg III as long as or longer than IV, at least in males; usually spines on sides of patellæ III and IV; coxæ I separate by more than width of lip; 2–2 or 3–3 spines under tibia I; legs usually quite hairy . 30.
   Leg III plainly shorter than IV . . . . 10.
10. Ocular area occupying fully one half of the cephalothorax, the dorsal eyes situated at its greatest width, and projecting laterally Zygoballus.
    Ocular area occupying less than one half of the cephalothorax; or if so, then the cephalothorax is not plainly broader at dorsal eyes than elsewhere . . . . 11.
11. Tibia I with 4–4 spines below (or less), the basal one of inner series is nearer to base than the first third of tibial length . . . . 12.

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[1] Latreille in 1810 fixed type of this genus as *S. scenicus*.

Tibia I with 3–3 spines (or less), the basal one of inner series situate one third of tibial length (or greater distance) from base; coxæ I usually widely separate . . . . 22.

12. Metatarsus IV heavily spined near base and middle, both below and on sides; cephalothorax never very low, nor very broad; usually spines on patellæ III and IV . . . . 17.

Metatarsus IV spined only at tip, or with one or two weak spines on sides; never a basal and middle circle of spines . . . 13.

13. Coxæ I approximate; leg I plainly thickened; sternum usually long; usually large species . . . . 15.

Coxæ I widely separate; leg I barely thickened; sternum short; very small species, with a narrower cephalothorax . . . . . 14.

14. Ocular area occupying nearly one half of cephalothorax; as wide in front as behind, dorsal eyes as large as laterals of first row; no spines below on tarsus IV . . . . Neon.

Ocular area less than one half of cephalothorax, rather wider behind; dorsal eyes smaller than laterals of first row; spines below on tarsus IV Attidops.

15. Abdomen about four times as long as broad; tibia I with 4–4 spines below . . . . Hyctia.

Abdomen much shorter . . . . 16.

16. Eye-region occupying two fifths of cephalothorax; the sternum nearly as broad as long, smaller species . . . . . . Fuentes.

Eye-region occupies about one third of cephalothorax; the sternum much longer than broad; larger species . . . . . Marpissa.

17. Tibia I with 4–4 spines below . . . . 18.

Tibia I with less than 4–4 spines below . . . . . . 19.

18. Ocular area slightly narrower behind than in front; leg IV plainly longer than I . . . . Mævia.

Ocular area barely narrower behind, leg I as long as IV Plexippus.

19. Cephalothorax rather long; eye-area occupying scarcely one third of length; tibia I with 3–3 spines . . . . 20.

Cephalothorax shorter; eye-area occupying fully two fifths of length; coxæ I widely separate . . . . 21.

20. Basal spine of femora III and IV about one half as long as the joint; abdomen vittate . . . . Phlegra.

Basal spine of femora III and IV much shorter; abdomen not vittate Sidusa.

21. Patella III as long as IV, no patellar spines . . . Euophrys.

Patella III shorter than IV, patellar spines present . . . Attus.

22. Cephalic part about two thirds of cephalothorax, reaching almost to abdomen; legs short, leg I thickened; hind metatarsi spined only at tip Homalattus.

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[1] Attidops, a new genus for *Ballus youngi* Peck.

Cephalic part far shorter . . . . 23.

23. Cephalothorax high, and rather broad; quadrangle of eyes wider behind than in front; large species, rarely under 7 mm.; leg I heavy and very hairy, often with fringes of hair, mandibles often iridescent; often a group of stout bristles near lateral eyes . . . . . Phidippus.

Cephalothorax not as high and heavy, leg I not so hairy; smaller species, rarely over 6 mm. . . . . 24.

24. A spine above before middle on tibia III and IV, and above on base of metatarsus IV; leg I not thickened; small species . . Attinella.[1]

No spines above on tibia III and IV, nor on base of metatarsus IV 25.

25. Tibia I with 2–2 large spines, and toward base are two pairs of large bristles with enlarged bases, not obscured by other hairs; metatarsi IV spined throughout, patellæ III and IV with spines; leg I not much thickened . . . . Thiodina.

Tibia I without such bristles, distinct from all else, 3–3 spines below 26.

26. Legs with few hairs (except sometimes a brush under tibia I in male), tibia I about three times as long as broad, with very small spines; legs lineate with dark . . . . Tutelina.

Legs more hairy, tibia I much stouter; legs not lineate (or rarely) with dark . . . . 27.

27. Cephalothorax much broader than width of dorsal eye-line; tibia and metatarsus I in male elongate; abdomen quite slender; leg I not very heavy; legs III and IV not plainly banded . . . . . Wala.

Cephalothorax narrower at dorsal eyes; tibia and metatarsus I not elongate in male . . . . 28.

28. Cephalothorax plainly depressed; leg I very much thickened, male with horny shield on base of abdomen . . . . . . Metacyrba.

Cephalothorax higher; male without shield at base . . . 29.

29. Tibia I plainly convex below; legs less hairy; cephalothorax longer Icius.

Tibia I barely convex below; legs more hairy; cephalothorax shorter Dendryphantes.

30. Very few spines on hind legs, none above on bases of tibiæ III or IV, nor on base above of metatarsus III; quadrangle of eyes wider in front; smaller, less hairy species . . . . . Habrocestum.

Hind legs with many spines, often one above on base of either tibia III or IV or both, and a spine above on metatarsus III; quadrangle of eyes usually wider behind . . . . Pellenes.

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[1] Attinella, a new genus for *Attus dorsatus* Banks.

[2] Includes Evarcha Simon; our one species (which seems to be the same as the *E. paleata* of Europe) cannot be readily separated by generic characters from some Pellenes.

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